

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A PCI-X DDR driver for providing internal termination to a transmission line, comprising:

a driver control;

a plurality of N-channel devices each coupled in series with a discrete resistor for providing a desired output impedance, the plurality of N-channel devices being divided into at least two groups; and

a plurality of P-channel devices each coupled in series with a discrete resistor for providing a desired output impedance, the plurality of P-channel devices being divided into at least two groups,

wherein the driver control is suitable for individually controlling selected ones of the groups of N-channel and P-channel devices on or off for providing internal termination to the transmission line, the driver control controlling selected ones of the groups of N-channel and P-channel devices on or off for providing one of pull-up type termination, pull-down type termination, and symmetric type termination to the transmission line.

2. (Canceled)

3. (Previously Presented) The PCI-X DDR driver as claimed in claim 1, wherein the driver control enables selected ones of the groups of P-channel devices for providing pull-up termination.

4. (Original) The PCI-X DDR driver as claimed in claim 3, wherein the transmission line includes a transmission line end having a terminator impedance, and wherein the terminator impedance is connected to a power supply VDD.

5. (Previously Presented) The PCI-X DDR driver as claimed in claim 1, wherein the driver control enables selected ones of the groups of N-channel devices for providing pull-down termination.

6. (Original) The PCI-X DDR driver as claimed in claim 5, wherein the transmission line includes a transmission line end having a terminator impedance and wherein the terminator impedance is connected to a system ground VSS.

7. (Previously Presented) The PCI-X DDR driver as claimed in claim 1, wherein the driver control enables selected ones of the groups of both P-channel and N-channel devices for providing symmetric termination.

8. (Original) The PCI-X DDR driver as claimed in claim 7, wherein the transmission line includes a transmission line end having a terminator impedance and wherein the terminator impedance is connected to both a power supply VDD and a system ground VSS.

9. (Original) The PCI-X DDR driver as claimed in claim 1, wherein the driver control includes an impedance controller for correcting process/voltage/temperature effects.

10. (Original) The PCI-X DDR driver as claimed in claim 1, wherein a size of at least one of the groups of N-channel and P-channel devices has its size weighted to provide an output impedance for given process/voltage/temperate conditions.

11. (Original) The PCI-X DDR driver as claimed in claim 10, wherein the size of at least one of the groups of N-channel and P-channel devices has its size weighted in conjunction with a discrete resistor.

12. (Currently Amended) A PCI-X DDR system, comprising:
a transmission line; and
a driver for providing internal termination to the transmission line, the driver including:
a driver control;
a plurality of N-channel devices each coupled in series with a discrete resistor for providing a desired output impedance, the plurality of N-channel devices being divided into at least two groups; and
a plurality of P-channel devices each coupled in series with a discrete resistor for providing a desired output impedance, the plurality of P-channel devices being divided into at least two groups,
wherein the driver control is suitable for individually controlling selected ones of the groups of N-channel and P-channel devices on or off for providing internal termination to the transmission line, the driver control controlling selected ones of the groups of N-channel and P-channel devices on or off for providing one of pull-up type termination, pull-down type termination, and symmetric type termination to the transmission line.

13. (Canceled)

14. (Previously Presented) The PCI-X DDR system as claimed in claim 12, wherein the driver control enables selected ones of the groups of P-channel devices for providing pull-up termination.

15. (Original) The PCI-X DDR system as claimed in claim 14, wherein the transmission line includes a transmission line end having a terminator impedance, and wherein the terminator impedance is connected to a power supply VDD.

16. (Previously Presented) The PCI-X DDR system as claimed in claim 12, wherein the driver control enables selected ones of the groups of N-channel devices for providing pull-down termination.

17. (Original) The PCI-X DDR system as claimed in claim 16, wherein the transmission line includes a transmission line end having a terminator impedance and wherein the terminator impedance is connected to a system ground VSS.

18. (Previously Presented) The PCI-X DDR system as claimed in claim 12, wherein the driver control enables selected ones of the groups of both P-channel and N-channel devices for providing symmetric termination.

19. (Original) The PCI-X DDR system as claimed in claim 18, wherein the transmission line includes a transmission line end having a terminator impedance and wherein the terminator impedance is connected to both a power supply VDD and a system ground VSS.

20. (Original) The PCI-X DDR system as claimed in claim 12, wherein the driver control includes an impedance controller for correcting process/voltage/temperature effects.

21. (Original) The PCI-X DDR system as claimed in claim 12, wherein a size of at least one of the groups of N-channel and P-channel devices has its size weighted to provide an output impedance for given process/voltage/temperate conditions

22. (Original) The PCI-X DDR system as claimed in claim 21, wherein the size of at least one of the groups of N-channel and P-channel devices has its size weighted in conjunction with a discrete resistor.

23. (Currently Amended) A PCI-X DDR driver for providing internal termination to a transmission line, comprising:

a plurality of N-channel devices each coupled in series with a discrete resistor for providing a desired output impedance, the plurality of N-channel devices being divided into at least two groups;

a plurality of P-channel devices each coupled in series with a discrete resistor for providing a desired output impedance, the plurality of P-channel devices being divided into at least two groups;

means for individually controlling the groups of N-channel and P-channel devices;

wherein the controlling means is suitable for individually controlling selected ones of the groups of N-channel and P-channel devices on or off for providing internal termination to the transmission line, the controlling means controlling selected ones of the groups of N-channel and P-channel devices on or off for providing one of pull-up type termination, pull-down type termination, and symmetric type termination to the transmission line.